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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/560,795	04/10/2006	Gustave Paul Corten	72998-013700/US	8905

7590 09/11/2007
Charles Berman
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EXAMINER

WIEHE, NATHANIEL EDWARD

ART UNIT	PAPER NUMBER
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3745

MAIL DATE	DELIVERY MODE
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09/11/2007

PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No. 10/560,795	Applicant(s) CORTEN ET AL.	
	Examiner Nathan Wiehe	Art Unit 3745	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 16 August 2007.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-7,9,10,13-15,17,19,23,24 and 29 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-4,7,13-15,17,19,23,24 and 29 is/are rejected.
- 7) ☒ Claim(s) 5,6,9 and 10 is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 14 December 2005 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|---|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)
Paper No(s)/Mail Date <u>08162007</u> . | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Response to Arguments

Applicant's arguments filed 16 August 2007 have been fully considered but they are not persuasive. Applicant argues that "Steinbuch does not teach a turbine farm according to claim 1 wherein by lowering the axial induction (a) of the first turbine with respect to the second turbine so as to extract less energy". However, by applicant's own admission, Steinbuch "describes that the operation of wind turbine on the windward side of a farm with a blade tip speed lower than that at which the maximum amount of energy is extracted can lead to a rise in the total farm production" (Page 4, lines 1-6) [emphasis added]. Therefore, the combination of Steinbuch and Kos would result in the claimed invention since Steinbuch discloses a turbine set to less than maximum output and Kos discloses generically a method of controlling the rotor speed by adjusting the pitch of the blades.

The new oath has overcome the previous objection

The objection of claims 13 and 14 and the rejection of claims 4,5,6,9 and 10 under 35 U.S.C. § 112 have been overcome by amendment.

Information Disclosure Statement

The information disclosure statement (IDS) submitted on 16 August 2007 is noted. The submission is in compliance with the provisions of 37 CFR 1.97 and 1.98. Accordingly, the information disclosure statement is being considered by the examiner.

Claim Rejections - 35 USC § 112

The following is a quotation of the first paragraph of 35 U.S.C. 112:

The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

Claim 14 is rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the enablement requirement. The claim(s) contains subject matter which was not described in the specification in such a way as to enable one skilled in the art to which it pertains, or with which it is most nearly connected, to make and/or use the invention.

Claim 14 requires that the control system be "self-learning". However, applicant has not described how the control system learns or described a conscious control system capable of learning. Further, learning computer programs as beyond the grasp of modern computing. Therefore, would not be enabled by the specification to construct as self-learning control system, as claimed, without undue experimentation.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 1,3,4,7,13,15,17,19,23,24, 29 and 14, as far as it is definite, are rejected under 35 U.S.C. 103(a) as being unpatentable over Steinbuch et al. (1988). Optimal

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Control of Wind Power Plants, *Journal of Wind Engineering and Industrial Aerodynamic*.

(27), hereinafter "Steinbuch", in view of Kos et al. (4,193,005), hereinafter "Kos".

Applicant notes (page 4, lines 1-6) that Steinbuch teaches operation of a wind turbine farm including the reduction of the windward turbines blade tip speed, thus reducing axial induction, can increase the overall farm production. Steinbuch does not disclose the means for reducing the blade tip speed. However, in the art of wind turbines it is well known to control the rotor speed, and thereby the blade tip speed, through the turning the blades for the purpose of optimizing the output of the turbine and preventing overrun conditions. Specifically, Kos describes a turbine including a blade pitch control system, responsive to a wind velocity sensor. Kos's control system constitutes software, in that it is programmed, and determines an appropriate blade angle and speed of revolution in response to a wind speed parameter. Therefore, It would have been obvious to one of ordinary skill in the art at the time the invention was made to modify the turbines of Steinbuch by utilizing a blade pitch control system capable of feathering the blades to reduce blade tip speed as taught by Kos for the purpose of optimizing the output of the turbines and preventing an overrun condition.

In regard to claims 3 and 15, Applicant indicates that Steinbuch discloses utilizing blade tip speeds lower than the maximum output speed and thus indicates a value of axial induction within the range .25 to 0, as claimed.

In regard to claim 17, following the logic of Steinbuch it would have been obvious to one of ordinary skill in the art to apply the concept of reducing the windward blade tip speed to both adjacent turbines as well as adjacent wind farms.

In regard to claim 19, the method for a turbine farm would have been apparent from the modified wind farm of Steinbuch.

In regard to claim 14, as far as it is definite, it is well known in the art of control programs to utilize software that is adaptive, i.e. incorporates previous data in current modeling calculations, so as to optimize the system's output. Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to utilize an adaptive software program, capable of incorporating previously acquired data in current calculations, in the control system so as to optimize the output of the system.

Allowable Subject Matter

Claims 5,6,9 and 10 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

The following is a statement of reasons for the indication of allowable subject matter: It is not known in the art of wind turbines to reduce the chord of the blades so as to reduce the axial induction of the turbine, nor is it known to use the distance between two turbines or the measurement of turbulence at the leeward turbine to determine the axial induction of the windward turbine.

Conclusion

THIS ACTION IS MADE FINAL. Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

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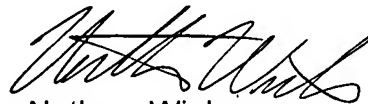
A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Nathan Wiehe whose telephone number is (571)272-8648. The examiner can normally be reached on Mon.-Thur. and alternate Fri., 7am-4:30pm EST.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Edward Look can be reached on (571)272-4820. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.



Nathan Wiehe
Examiner
Art Unit 3745



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9/10/07